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John Paul Stefanowicz

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THE RESOLUTION OF INEQUITY BY  
OUTPATIENT SCHIZOPHRENICS.**

**Iowa State University, Ph.D., 1969  
Psychology, clinical**

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THE RESOLUTION OF INEQUITY BY  
OUTPATIENT SCHIZOPHRENICS

by

John Paul Stefanowicz

A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of  
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## INTRODUCTION

While consistency models were introduced into the psychological literature only an approximate decade ago, personality theories which follow a consistency model have achieved prominence within contemporary psychology. Though they may be traced in form and spirit to the earlier work of Heider (1944, 1946), most of the theoretical statements on consistency were published in the 1950's (Abelson & Rosenberg, 1958; Cartwright & Harary, 1956; Festinger, 1957; Heider, 1958; Newcomb, 1953; Osgood & Tannenbaum, 1955). These attempts to formulate cognitive consistency as a proposition amenable to empirical test have since proven the productive worth of the general model as a base for personality theorizing.

In general, the consistency model considers personality to be determined more by the feedback from interaction with the world than it is by any inherent attributes of man (Maddi, 1968). Consistency positions concern themselves much more with the compatibility, congruence, or fit between various aspects or elements of content than with the specific nature of the content. An implication of such an eclectic contentual position is the model's emphasis on individual uniqueness, while retaining occasions for empirical rigor.

The origins of a consistency model of personality lie within social psychology's concern with cognitive consistency as the means whereby the randomness of events is reduced, providing a stable framework of expectations within which action can occur. Though the various theoretical statements have been proposed under a variety of names (symbolic psychology, balance, dissonance, symmetry, congruity), they have in common the notion

that an individual tends to behave in ways that maximize his attaining both a consistency among his cognitions of himself (e.g., as between cognitions of his beliefs and actions) and a consistency among cognitions of himself and objects or persons in his environment. Inconsistency is assumed to result in a cognitive state of discomfort or disturbance which provides the energy and direction for behavior. It is this property which enables one to state the core idea succinctly: Individuals strive to reduce tension in their cognitive structure; we all like to keep our cognitive house in order. Since the appearance of the forementioned versions of the model, their general and powerful principle has provided the point of theoretical departure for more personality and social psychological research than has any other one theoretical notion (McGuire, 1966).

One such avenue of research has been the application of the consistency model to situations of social exchange, particularly as the model is involved in fashioning conceptions of justice, fairness, and equity. After the early work of Stouffer and his colleagues (1949) on relative deprivation, in which deprivation or injustice was defined in a relative sense so that unfair violations of expectations were described as arising out of comparison with an acknowledged or unacknowledged standard, Homans (1961) made use of a quasi-economic vocabulary to more fully articulate a theory of distributive justice which has close ties with the basic consistency position. For Homans, a condition of distributive justice will exist among those who are in an exchange relationship when the profits of each, less costs incurred, are proportional to their respective investments. Profit consists of that which is received in an exchange, cost is that which is given up in an exchange, and investments are the relevant attributes that are brought

to the exchange, such as ability, effort, education, or experience.

In making it explicit that it is the relation between the ratios of profits to investments which results in felt justice or injustice, this distinct contribution of Homans enables one to go beyond the concept of relative deprivation. As Adams (1965) has pointed out, an individual may feel deprived, but he feels deprived not merely because his rewards are less than he expected. Individuals may perceive their rewards as smaller when comparing their rewards to those of another, yet they will not feel this state of affairs as being unjust, for persons obtaining higher rewards may be perceived as deserving them. Their rewards are greater because their investments are greater. Homans (1961) has noted, then, that "Justice is a curious mixture of equality within inequality" (p. 244). Homans' model of distributive justice between two individuals, A and B, may be given in schematic form as follows:

$$\frac{\text{A's rewards less A's costs}}{\text{A's investments}} = \frac{\text{B's rewards less B's costs}}{\text{B's investments}}$$

Other workers have given formal propositions which refer to the same principle and resemble Homans' quite closely, especially in that each involves a social comparison. Sayles (1958, p. 98), for example, has conjectured that factory workers compare their jobs to other jobs and establish the fairness of their wages as follows:

$$\frac{\text{Our importance in the plant}}{\text{Any other group's importance}} = \frac{\text{Our earnings}}{\text{Their earnings}}$$

"Importance" may presumably be taken as equivalent to investments. When the comparative ratios are congruent, an equitable relationship will obtain

and satisfaction will be experienced, while an incongruence between the ratios will be accompanied by dissatisfaction. Thus, justice is portrayed as being a function of the perceived equality of the ratios of investments and rewards. Similarly, Patchen's (1961, p. 9) model postulates that employees make wage comparisons of the type:

$$\frac{\text{My pay}}{\text{His (their) pay}} \text{ compared to } \frac{\text{My position on dimensions related to pay}}{\text{His (their) position on dimensions related to pay}}$$

Of particular note in Patchen's formulation is the greater explicitness he has given to the rewards which constitute "dimensions related to pay", specifying them as being attributes such as skill, education, and seniority. Finally, the underlying assumption of Jaques' (1956, 1961) model is the existence of apparently unconscious social norms of what constitutes a fair or equitable payment for any given level of work, "these norms being intuitively known by each individual" (Jaques, 1961, p. 17). At an equitable payment level, one feels that it is a fair return relative to the pay of others.

Though Homans, Sayles, Patchen, and Jaques delineate some of the conditions which define perceptions of justice and injustice in social exchanges, they fail to describe, other than in anecdotal fashion, the consequences of perceived injustice beyond "dissatisfaction". As Adams (1965) has objected: "Men do not simply become dissatisfied with conditions they perceive to be unjust. They usually do something about them" (p. 276). By building on the work just described, Adams (1963a, 1965) has offered a theory of inequity in social exchange which specifies both the antecedents of perceived injustice and its consequences.



Adams (1965) defines inequity as follows: "Inequity exists for Person whenever he perceives that the ratio of his outcomes to inputs and the ratio of Other's outcomes to Other's inputs are unequal. This may happen either (a) when he and Other are in a direct exchange relationship or (b) when both are in an exchange relationship with a third party and Person compares himself to Other" (p. 280). Other is usually a different individual, but may be Person in another job or in another social role. Thus, Adams refers to an unequal relationship between the ratios of inputs and outcomes of two persons as the definitive condition of inequity. While Adams has indicated that his theoretical notions are relevant to any situation in which a social exchange takes place, explicitly or implicitly, whether between parent and child, teacher and student, therapist and patient, or coworkers, research has by and large been limited to only one aspect of the general case, i.e., wage inequity.

Potential inputs in a job situation for the person (employee) are his education, intelligence, experience, training, skill, seniority, age, sex, ethnic background, social status, and very importantly, the effort he expends on the job. Though not formally proposed by Adams, one might consider personality to be germane. Under special circumstances other attributes will also be pertinent, such as personal appearance, health, possession of an automobile, and so on (Adams, 1963a). They are what the employee perceives as his investment in the exchange, for which he expects a just return. Attributes which can be perceived by the person as benefits derived from his participation in the exchange are identified as outcomes. Potential outcomes include such things as pay, rewards intrinsic to the job, seniority benefits, fringe benefits, job status and status symbols, and a variety of formally

and informally sanctioned privileges. In a manner analogous to inputs, outcomes are as perceived by the possessor.

Adams does not imply that input and outcome variables are independent, except conceptually, for it is in their imperfect intercorrelation that conditions of inequity arise. Reminiscent of Jaques (1961), Adams assumes that there exist normative expectations of what constitute "fair" correlations between inputs and outcomes. However, he transcends Jaques by grounding these expectations in the process of socialization, wherein the human organism learns what is appropriate reciprocation. The expectations of fair correlations "are formed-learned-during the process of socialization, at home, at school, at work" (Adams, 1965, p. 279).

A condition of equity exists when the ratio of inputs and outcomes are identical between two people. For example, a condition of equity will exist when both Person and Other exert high effort for low wages, as represented in the following:

$$\text{Other: } \frac{\text{Input}_{\text{high}}}{\text{Outcome}_{\text{low}}} = \text{Person: } \frac{\text{Input}_{\text{high}}}{\text{Outcome}_{\text{low}}}$$

Equity is also said to exist when both the inputs and outcomes of Other are higher or lower than both the inputs and outcomes of Person:

$$\text{Other: } \frac{\text{Input}_{\text{high}}}{\text{Outcome}_{\text{high}}} = \text{Person: } \frac{\text{Input}_{\text{low}}}{\text{Outcome}_{\text{low}}}$$

$$\text{Other: } \frac{\text{Input}_{\text{low}}}{\text{Outcome}_{\text{low}}} = \text{Person: } \frac{\text{Input}_{\text{high}}}{\text{Outcome}_{\text{high}}}$$

When the normative expectation for a comparative input/outcome balance

is violated, feelings of inequity will result. Inequity may be defined schematically in both an undercompensated and an overcompensated condition as follows:

$$\begin{array}{lcl} \text{Other: } \frac{\text{Input}}{\text{Outcome}} & < & \text{Person: } \frac{\text{Input}}{\text{Outcome}} \\ \\ \text{Other: } \frac{\text{Input}}{\text{Outcome}} & > & \text{Person: } \frac{\text{Input}}{\text{Outcome}} \end{array}$$

It is assumed that the threshold for feelings of inequity is higher when a person is overcompensated than when a person is undercompensated. Over-rewards presumably can be perceived or rationalized as fortuitous or as secretly deserved, so that the attendant guilt of overcompensation may be more easily tolerated than the attendant anger of undercompensation (Adams, 1965). However, the important point is that the individual can experience inequity and be motivated to reduce or resolve it in either case, for the general assumption is that simple economic motivation is subordinate to the motivation to achieve consonance between perceived inputs and outcomes.

Inequity can be reduced by Person in several ways: (1) by actually altering either one's inputs, one's outcomes, or both; (2) by cognitively distorting one's inputs or outcomes; (3) by leaving the field; (4) by altering or cognitively distorting Other's inputs or outcomes, or by forcing Other to leave the field; or (5) by changing to another comparison Other. Given the existence of inequity, any of these means of reduction are taken to be potentially available to Person. There are few explicit principles made about the choice of resolution, but it is assumed that Person will strive for maximally positive outcomes, will adopt the least effortful

resolution, and will act so as to preserve his self-concept and self-esteem (Adams, 1965).

The majority of the experimental research has dealt with the behavioral modes of inequity resolution, by and large through the manipulation of inputs (Adams, 1963a, 1963b; Adams & Jacobsen, 1964; Adams & Rosenbaum, 1962; Arrowood, 1961; Friedman & Goodman, 1967; Goodman & Friedman, 1968). In these studies, perceived job inputs (i.e., qualifications for the job, specified as previous experience) were varied by the experimenter while the outcome of wage rate was held constant, inducing an inequity of overcompensation where Other is high input/high outcome and Person is low input/high outcome. In this traditional manipulation, subjects are made to feel either qualified or unqualified for the job before the actual work is begun, so that the research question becomes "How will the subject behave in order to reduce these feelings?".

Several studies which have used the hourly pay schedule (Adams & Rosenbaum, 1962; Arrowood, 1961; Goodman & Friedman, 1968) generally support Adams' theory in that they found that when subjects perceived their pay as inequitably large, their productivity was greater than when identical pay was perceived as equitable. There has been one study to date which has failed to obtain similar results supportive of equity theory. Friedman and Goodman (1967) found no significant differences in productivity between their experimental and control groups. They have reported, however, that when the factor of self-perception of qualifications is controlled, so that unqualified experimental subjects (mean productivity = 26.3) are compared with unqualified controls (mean productivity = 23.9), the overcompensated group produces more (but not significantly more) than the control group,

thus contributing some substantiation for the wage inequity-productivity hypothesis.

Additional studies have shown that if subjects, under the same circumstances of overcompensation by unqualification, are paid on a piece rate schedule, they may either restrict their productivity so as not to add to the inequity already present (Adams, 1963a; Adams & Rosenbaum, 1962; Goodman & Friedman, 1968), and/or increase their work quality so as to increase inputs per unit while the outcome per unit is constant (Adams, 1963a, 1963b; Adams & Jacobsen, 1964; Goodman & Friedman, 1968), thereby achieving a more equitable balance between inputs and outcomes.

Two studies have used an approach which begins to allow for somewhat more rigorous tests of the theory than the traditional paradigm. They established two equitable control conditions where, with Other = high input/high outcome, the Person ratios were: high input/high outcome and low input/low outcome. These were contrasted with an inequitably overcompensated experimental condition of Other = high input/high outcome, Person = low input/high outcome under both the piece rate (Adams & Jacobsen, 1964) and the hourly (Goodman & Friedman, 1968) pay schedules. These studies demonstrated that significant differences between experimentals and controls are not confined solely to the typical control condition when Other = high input/high outcome, Person = high input/high outcome, but are also obtained under a control of Other = high input/high outcome, Person = low input/low outcome. Thus, these two studies have provided evidence of the generality of Adams' rule for equity, i.e., that the ratio of inputs and outcomes be identical between two people.

Inequity has been induced through a manipulation of outcomes instead

of through a manipulation of perceived inputs in several studies (Andrews, 1967; Lawler & O'Gara, 1967), both of which examined the effects of an undercompensated piece rate. With this design, no Other is provided through experimental induction. Instead, Other is assumed to be Person in another previous job, or in a prior social role, a possibility which was suggested by Adams (1965). In each of these studies, piece rate was varied while perceived job inputs were assumed constant by random assignment of subjects to different wage groups. In addition, the Andrews (1967) study also included an overcompensated condition, in order to test the differential threshold hypothesis that workers are more sensitive to undercompensation than to overcompensation. As predicted by the theory, in both studies the underpaid subjects maintained equity by increasing work quantity at the expense of lower quality, while Andrews' overpaid subjects maintained equity by reducing work quantity and increasing work quality. The threshold hypothesis was also supported by Andrews to the extent that underpay inequity was found to have had a somewhat greater effect than overpay inequity in the case of work quantity, but not in the case of work quality. However, in a methodological study in which an attempt was made to determine perceived ranges of equitable payment through psychophysical procedures, Zedeck and Smith (1968) offered additional support toward the substantiation of differential thresholds, for they found that their subjects were more willing to indicate inequities below rather than above equitable salaries.

The postulated cognitive modes of inequity reduction, i.e., Person cognitively distorting either his or Other's inputs and/or outcomes, have not received dramatic support by the research, perhaps because most researchers have chosen to examine and thus have designed their studies so as to be most

conducive to the behavioral modes of reduction. In such studies, with inequity already reduced behaviorally, subjects may feel little need for any further reduction via cognitive modes.

Lawler and O'Gara (1967) have found that in comparison with an equitably paid group, their piece rate underpaid subjects not only tended to increase their productivity, but also reported seeing the task as relatively unimportant, simple, and unchallenging. The similarly underpaid group of the Leventhal, Allen, Kemelgor and Musten (1967) study, however, did not reduce inequity through a distortion of inputs. Though they might have attempted to reduce inequity by lowering their perceived inputs, they did just the opposite, and instead judged their inputs to be relatively high. (It should be pointed out that this study, as was one other (Leventhal & Bergman, 1968), was a variant of the more traditional design in which outcomes are manipulated through the differential assignment of piece rate. The Leventhal approach has been to examine how inequitably over- and undercompensated subjects respond to such divisions of compensation and reduce inequity by re-allocating available rewards. Leventhal et al. (1967) explained their unpredicted findings by suggesting that their undercompensated subjects may have been cognitively exaggerating their perceived inputs in order to make their inputs more consistent with their strong desire to increase their share of the reward.) Andrews (1967) has reported the general trend in the comparison of inequitably overpaid with inequitably underpaid subjects of "the higher the piece rate, the more favorable the job attitude on five out of six scales" (p. 42). But when his earlier reported data (Andrews, 1965) are examined more closely, there is but little apparent difference between the equitably paid group and either the inequitably overpaid or inequitably

underpaid groups on their ratings of the input dimensions of job importance, complexity, and challenge.

The Andrews (1967) and the Lawler and O'Gara (1967) studies have contributed to the literature in their examination of other variables not specifically incorporated by Adams into equity theory, yet nevertheless of importance. For example, Andrews (1967) has shown Person's previous wage experience to be a significant factor in estimating the effects of manipulating piece rate as an outcome. He found differences on quantity of work within each "previous high wage per hour" group to be as large as the differences between outcome groups, thus emphasizing Adams' position that inputs and outcomes must be evaluated in terms of the worker's perception of them, rather than in terms of objective reality. Lawler and O'Gara (1967) have related personality measures obtained from administration of the California Personality Inventory (CPI) to subjects' job attitudes and job performance. They found the group of scales on the CPI that were designed to measure socialization, maturity, and responsibility to show a consistent tendency to be positively related to work quality, and somewhat of a tendency to be negatively correlated with productivity.

Goodman and Friedman (1968) have used a procedure which allows for a more precise manipulation of the input variable. They presented input for Other in a quantitative fashion and employed this known production rate in their induction of the high input/high outcome ratio for Other. By so specifying Other's input, they reported obtaining a reduction in the difference in productivity between the inequitably overcompensated (Other = high input/high outcome, Person = low input/high outcome) and their control or "reduced inequity" (Other = high input/high outcome, Person = low input/low outcome)



groups. One might take this finding to suggest that contrary to the single-purposed efforts of those studies which would make Adams' general theory of social inequity into a theory of wage inequity, the element of pay is still but a single element in the ratios of Other and Person, and is not of singular importance. Weick's (1966) complaint is similar: "Equity research itself seems to ignore the idea of the ratio and instead is tied much more closely to the specific content of situations" (p. 438). Goodman and Friedman (1968) have shown that other elements of the ratios (e.g., input of Other) do have their effects. Additionally, they have examined the effect of two moderating variables, ability and achievement orientation. However, no relationship was found between ability and productivity, and none was reported between achievement and either work quantity or work quality.

Through this entire series of studies there has been posed but one experimentally examined alternative explanation which would restrict the equity formulation. It would be plausible to interpret the obtained differences in productivity and work quality when subjects were inequitably over-compensated as due to the subjects, in such experimental conditions, working harder and better so as to insure their continued status in such apparently fortuitous and profitable circumstances, i.e., the so-called job insecurity explanation. However, the results of two studies (Arrowood, 1961; Adams & Jacobsen, 1964) seem to have dismissed this as a viable alternative. Arrowood reported data which indicate that those in a condition of high inequity produced more, across both "public" and "private" conditions of exposure of work results (where public exposure would entail the identification of the subject's production rate by the employer), than those in a condition of low inequity. But when the data are analyzed by method of exposure, those in

the public condition are found to have produced more than those in the private condition, across levels of inequity. Thus, Adams and Jacobsen (1964) later varied three levels of dissonance (inequity) over the conditions of high and low job prospects. It was hypothesized that if effects were attributable to job insecurity, a significant interaction effect between dissonance and job prospects would be obtained, so that the combination of perceiving oneself as unqualified and also perceiving that future employment may be lost would optimally motivate one to improve work quality. However, the manipulation of perceived job prospects was reported to not have had any significant effects, and instead, the study gave clear support only to the original equity formulation.

A key issue links the concern with equity theory and in general, the consistency model, to general psychology. Given that situations of inequity can be defined, and effects demonstrated, when does the individual behave so as to minimize these? Using the concept of thresholds, under what conditions, if any, is the threshold for inequity so high, for example, and consequently, is the instigation of specifically inequity-reducing behaviors so remote a possibility, that the functional value of this approach is lost or at the least, very much reduced? In short, when is the model inappropriate? For as Pepitone (1966) argues, there are inequities and inequities; one could conceive a range from the utterly trivial to the disastrous. Therefore, it should be obvious that predictions as to whether or not an individual will act and as to how he will act will depend upon the degree of significance the inconsistency has for him personally. Without the attainment of a satisfactory level of personal relevance, such predictions will be hollow.

Leventhal et al. (1967) have posed a related restriction pertaining to the generality of the theory. They describe Person's tendency to behave in accord with equity theory as suggestive of the operation of a norm or behavioral rule which they have referred to as the "equity norm". Like other norms, they consider the equity norm to operate more strongly in some situations than in others. A caution well taken from Leventhal et al. is that "Adams' equity model will predict behavior accurately only when Person's behavior is being regulated by the equity norm. To the extent that the norm is inoperative, as in situations in which Person has adopted an exploitive orientation and seeks to maximize his own outcomes at Other's expense, equity theory will be unable to make accurate predictions" (p. 3).

More basic than what Leventhal et al. seem to be identifying as an issue of prepotency (i.e., that a latent norm becomes manifestly influential only at specific times, and thus has only a relative behavioral significance) are the questions of (1) whether an equity norm is in fact learned, and (2) whether such learning is a universal phenomenon, although its effects may occasionally be latent. Adams has been quite clear in suggesting that prior learning does establish the expectations of equity and that it is an interpersonal process which is involved. In his earlier paper (Adams, 1963a) he states that "As was previously suggested, the dissonant relation of an individual's inputs and outcomes in comparison to another's is historically and culturally determined... Each individual has a different history of learning, but to the extent that he learns from people sharing similar values, social norms and language, that is, the extent to which he shares the same culture, his psychological reactions will be similar to theirs" (p. 425). Similarly, he later states (Adams, 1963b) that "When an individual compares himself

with another person, he looks at his own inputs and outcomes in relation to another person" (p. 9), and concludes (Adams, 1965) that "the expectations are formed-learned-during the process of socialization, at home, at school, at work" (p. 279). Thus it is Adams' position that individuals experience inconsistencies of various kinds in their lives, and in the process learn effective ways of resolving them.

Brehm and Cohen (1962) have described a study by Day (1961) which may be taken as supportive of Adams' learning/socialization position. Day's results indicated that a significant number of the young children in his sample, which ranged in age from four to six years, responded to an increased reward of M&M candies with an increased effort expenditure on over-rewarded trials. Within the design of the study, this general finding demonstrated the attempt to resolve inequity in the overcompensated condition. But what is of particular interest in regard to the issue of the role of learning and socialization is a further analysis of Day's data according to the age of the subjects. When so analyzed, Brehm and Cohen (1962) have reported that it appears that increases or decreases in effort (input) were largely a function of age. Whereas the data when uncorrected for age showed an increase in effort by 64% of the subjects, against a 36% decrease, when the oldest third of the subjects are isolated (children between 5.2 years and 6.4 years), 80% of these were found to have increased their inputs whereas only 20% decreased them. It should be recognized that these percentage data are remarkable neither in their descriptive power nor in their connotations. Yet they do seem to suggest, as Brehm and Cohen have concluded, that the response to inequity by an increase in effort may be dependent on learning associated with socialization, so that only when the person is

socially experienced may we predict a strong response in an attempt to reduce inequity.

Adams' theoretical stance appears steadfast in assuming the learning of the socially generated norm to be universal. He has stated (Adams, 1965) that "the theoretical notions offered are quite as relevant to any social situation in which an exchange takes place" (p. 276), and that "In the absence of this ability, interpersonal relations would be chaotic, if not impossible" (p. 279). It is in regard to this point of universality that the social comparison basis of the Adams approach has been criticized (Weick, 1966; Zedeck & Smith, 1968) in its neglect of the possibility that under certain conditions a "social isolate" (Weick, 1966) will evaluate his outcomes as equitable or inequitable in terms of an internal absolute standard which is not anchored to a specific reference group or person. One such social isolate is the schizophrenic.

Adams has theoretically obviated the social isolate exception as it pertains to his comparative position, by allowing for the case where Other may be Person in another job or in another social role. But this appears to result in a basic contradiction of terms, for if social inequity is occasionally allowed as an intrapersonal phenomenon, one must occasionally speak of intrapersonal social exchange. Thus the social isolate concept is an entirely relevant and important challenge to the social underpinnings of Adams' theory. In addition, neither the limiting nor the facilitating circumstances of the choice of Other as another individual versus as historical Person have been described. This would seem to necessitate an examination of the obviated.

A study by Gill (1963) may be taken as a representative experimental

illustration of the general clinical observation that the schizophrenic process involves a withdrawal from normal social interaction. (See, for example, Arieti, 1968; Bateson, Jackson, Haley & Weakland, 1956; Fennichel, 1945; Noyes, 1948; Rosen, 1953; Shulman, 1968; Sullivan, 1947, 1953; Watzlawick, Beavin & Jackson, 1967.) To briefly summarize Gill's findings, schizophrenic subjects manifested a low degree of conformity behavior and a sparsity of affectual relationships in their reactions to the group when comparing length of lines in an optical illusion study. Gill, therefore, concluded that schizophrenics are less highly motivated to maintain group membership and thus have less of a need to conform to group influence.

Scheff (1963) has submitted a pertinent framework wherein a theory of mental disorder is generated under the assumption that psychiatric symptoms are violations of social norms. He holds that there are innumerable norms over which social consensus is so complete that the members of a group appear to take them for granted. For example, a person engaged in conversation is expected to face towards his partner, rather than directly away from him, or is expected to stand at a proper conversational distance, neither one inch away nor across the room, and so on. A person who regularly violates these expectations is considered to violate the assumptive world of the group, "the world that is construed to be the only one that is natural, decent, and possible" (p. 439). The typical norm governing decency or reality, therefore, literally "goes without saying" and its violation is unthinkable for most of its normal members.

Validation studies of the equity norm (Adams, 1963a, 1963b; Adams & Jacobsen, 1964; Adams & Rosenbaum, 1962; Andrews, 1967; Arrowood, 1961;

Friedman & Goodman, 1967; Goodman & Friedman, 1968; Lawler & O'Gara, 1967; Leventhal et al., 1967; Leventhal & Bergman, 1968) appear rather seriously circumscribed in the restriction of their experimental samples to a college population. Such a restriction seems only questionably appropriate in light of the extent to which Adams' theory rests upon an assumptive foundation entailing processes of learning and socialization. Though perhaps operationally convenient, this restriction limits the theory's descriptive power and weakens any heuristic purpose. Admittedly, to demonstrate that the validity of a theory may be limited under special criteria of sample selection, e.g., "chronic schizophrenics," may often reduce to no more than an exercise in the esoteric. However, Adams' theory has been supported by such commanding and consistent research findings that one would be derelict not to subject the basic model to more varied circumstances. This is particularly the case insofar as the social comparison model is suggestive of prevalent conceptualizations, and hints at an underlying rationale for the treatment of schizophrenia. For example, if Adams' theory of social equity could be demonstrated as predictive of the behavior of a population of chronic outpatient schizophrenics, the challenge this would offer to their traditional characteristics of autism, withdrawal, and even to their very chronicity itself, would be apparent.

Clinical views of the schizophrenic reaction would seem to anticipate the use of an idiographic or non-social model in the identification and reduction of inequity in such a population. Using Adams' terms, the schizophrenic as Person would be predicted to attend only to Person's ratio of inputs and outcomes, with minimal reference to Other's ratio. Equity would be achieved by the individual balancing his net inputs against his net outcomes,

according to the principle: "I should get what I deserve, and I don't care about the Other." In this more idiographic schema, perceived overcompensation would be the result of the subjective value of his net inputs being less than the subjective value of his net outcomes, whereas perceived undercompensation would be the result of the inputs' value being greater than the outcomes' value.

In order that this idiographic model be examined, while at the same time giving full play to the social model, there is a need for an alteration in the standard induction. In the typical instructions, a balanced Other is induced along with an unbalanced Person, so that equity is already established in an individual fashion for Other, resulting in a confounding of the two models.

The design of each of two other previously described studies (Adams & Jacobsen, 1964; Goodman & Friedman, 1968) appear similarly confounded. They have identified as a "reduced dissonance" condition under a social model an induction of Other = high input/high outcome, Person = low input/low outcome. However, this may be described under an idiographic model as a control condition of no dissonance where Person is already equitably balanced, having low inputs and low outcomes. In a recent review of the literature intended as a contrast and comparison between Adams' equity theory and general expectancy theory, Lawler (1968) too has made no distinction between the social versus the idiographic models. He summarily characterized the general approach of expectancy theory as one which "can be said to emphasize persons trying to maximize their positive outcomes" (p. 598), as distinct from an undifferentiated yet idiographic-sounding version of equity theory which "emphasizes persons trying to balance their inputs against their



outcomes" (p. 598), omitting reference to the very core of Adams' position, i.e., its social basis.

An additional consideration warrants the establishment of Other and Person ratios in which the levels of the input and outcome factors are more fully varied. In his earlier paper Adams (1963a) assumed, with regard to the amount of inequity that exists under given ratios, that greater inequity would result when both inputs and outcomes are discrepant than when only inputs or outcomes are discrepant. However, to date there have been no studies which have attempted to induce such conditions.

A further problem with the studies done so far has to do with the nature of the tasks on which the subjects have worked. Interviewing (Adams, 1963a, 1963b; Adams & Rosenbaum, 1962; Andrews, 1967; Arrowood, 1961; Friedman & Goodman, 1967), checking errors on galley sheets (Adams & Jacobsen, 1964), questionnaire scoring (Goodman & Friedman, 1968), data checking (Andrews, 1967), and doing multiplication problems (Leventhal et al., 1967; Leventhal & Bergman, 1968) comprise all the tasks that have been used. In all of these tasks productivity and quality have been shown to be negatively correlated, making it difficult to test some of the predictions of the theory. For example, in the interviewing task, it is highly doubtful whether productivity as number of interviews collected in a two hour period can be meaningfully interpreted apart from quality of work as number of words per interview. What is needed is a task where, as Lawler (1968) suggests, quantity and quality are free to vary as a function of the subject's effort and where they are uncorrelated, or at the least, where the intrinsic requirements of the task negate significant variance of either the one or the other dependent variable. Furthermore, that one study (Andrews, 1967) which did recognize

the possibility of task differences and accordingly employed two tasks, i.e., data checking as a "dull" task and interviewing as an "interesting" task, purposely adjusted the two for an average production rate of nine pieces per hour, and thus effectively allowed for no measure of task variance.

In a study (Lawler, Koplin, Young & Fadem, 1968) which did not restrict its sample solely to a college population (but included 31 local residents as well as nine college students), the significant effects of an overpayment induction on productivity and work quality were found to dissipate to non-significance in the second and third of three consecutive experimental sessions. Of note in the Lawler et al. (1968) study is that they obtained a significant interaction ( $F=15.79$ ;  $p<.01$ ) between treatment and sessions in addition to a significant main effect ( $F=15.19$ ;  $p<.01$ ) due to sessions alone. These data seem to raise the important question of whether inequity effects are actually due to the manipulated variables, or whether a covariate is involved.

The Lawler et al. (1968) study has shown that effects may not always be sustained through succeeding experimental periods, but are obtained only in the initial introduction of the subjects to the task, i.e., when the subjects have no personal expectations of appropriate or suitable task performance. This suggests that after a period of exposure to the task, such "practice" would allow for the formation of personal expectations of appropriate behavior which may be altogether distinct from those implied expectations which the experimenter provides in the induction. Thus the manipulation may merely provide the subject with short-term normative expectations of appropriate task performance, expectations which may be replaced by others which are formed during a period of experience with the task. Personal norms may

then be developed, become prepotent, and diminish "treatment" effects. In short, this interpretation of the Lawler et al. (1968) study points to the necessity of estimating task practice effects.

#### Purpose

It was the purpose of this study to examine the resolution of inequity by a population which exemplifies the social isolate. It was hypothesized that such a population would utilize an idiographic, non-social model in the identification and reduction of inequity by demonstrating minimal reference to the input/outcome ratio of Other.

Also intended was an examination of other issues which have been raised by the previous research. Specifically, this study attempted to:

- (1) Evaluate the differential strength, if any, in the effects of the input and the outcome variables of Other and Person;
- (2) Evaluate the differential effects of under- and overcompensation;
- (3) Estimate task variance;
- (4) Estimate the effect of practice as it might function as a covariate.

## METHOD

## Sample and Setting

The subjects employed in this study were 56 members of the Day Treatment Center, Veterans Administration Center, Des Moines, Iowa. The Day Treatment Center (DTC) is an outpatient facility of the Veterans Administration which provides services for a psychiatric population. The goals of these services are: (1) forestalling hospitalization, (2) improving clinical status, and (3) facilitating community adjustment. These goals may be represented by the bipolar dimension of "hospitalization-employment".

The following criteria determined sample selection: (1) outpatients receiving psychiatric treatment, (2) with a current, singular psychiatric diagnosis of "schizophrenic reaction", unspecified type, (3) a history of inpatient psychiatric hospitalization, (4) currently unemployed, and (5) male. The mean age of the sample at the time of the study was 42.76 years ( $\sigma=8.68$  years), ranging from 28 to 63 years, with a median value of 43.5.

Since therapeutic goals were often antithetical to continuous or regular attendance at the DTC, no descriptive data were available with regard to the subjects' length of outpatient status. The total years of inpatient hospitalization which had been amassed by the sample as a group (415.75 years) had as its mean value 7.42 years ( $\sigma=6.56$  years), and ranged from 0.08 to 24.33 years. Individual subject's total years of hospitalization were not always accumulated within one continuous period, but ranged from a single admission to 22 separate admissions. The sample as a whole had been hospitalized for 17.3% of its mean life, with individual subject's

percentages ranging from 0.3% to 52%. Though most subjects had once engaged in gainful employment, more recent employment histories were typically sporadic, and all subjects were unemployed at the time of the study.

The study was conducted within the DTC and was synchronized into the customary pattern of on-going DTC activities. This was enhanced by the previously established role of the experimenter as "Counseling Psychologist", that member of the DTC staff most responsible for jobs and work-related activities. Experimental sessions were held within the DTC building, in a room which had been designated as a "special project" area prior to the study. Thus the setting was presumed to have allowed for a realistic work simulation.

#### Design

The study was conducted as a 2X2X2 factorial experiment with equal replications. Factor A was the input/outcome ratio of Other, and was at one of two fixed levels, i.e., high input/low outcome, low input/high outcome ( $i=1,2$ ). Factor B was Person's input (high-low,  $j=1,2$ ), and Factor C was Person's outcome (high-low,  $k=1,2$ ). The total sample of 56 subjects (D) was randomly divided into the eight treatment conditions (Table 1) so that there were seven observations per cell ( $m=1$  to 7). Thus the model followed was:

$$Y_{ijkm} = A_i + B_j + C_k + AB_{ij} + AC_{ik} + BC_{jk} + ABC_{ijk} + ABCD_{m/ijk}(\text{Error})$$

The total error term in the model was defined as "subjects within treatments". This mixed model was used to describe performance on each of two separate tasks. The sources of variance, degrees of freedom (df), and expected mean squares (EMS) for each source are presented in Table 2. From Table 2 it can

Table 1. Treatment conditions showing Other and Person ratios with type of compensation by social or idiographic definition

Condition	Other	Person	Compensation	
			Social	Idiographic
1	$\frac{\text{Input high}}{\text{Outcome low}}$	$\frac{\text{Input low}}{\text{Outcome high}}$	over	over
2	$\frac{\text{Input high}}{\text{Outcome low}}$	$\frac{\text{Input high}}{\text{Outcome high}}$	over	equitable
3	$\frac{\text{Input high}}{\text{Outcome low}}$	$\frac{\text{Input high}}{\text{Outcome low}}$	equitable	under
4	$\frac{\text{Input high}}{\text{Outcome low}}$	$\frac{\text{Input low}}{\text{Outcome low}}$	over	equitable
5	$\frac{\text{Input low}}{\text{Outcome high}}$	$\frac{\text{Input low}}{\text{Outcome high}}$	equitable	over
6	$\frac{\text{Input low}}{\text{Outcome high}}$	$\frac{\text{Input high}}{\text{Outcome high}}$	under	equitable
7	$\frac{\text{Input low}}{\text{Outcome high}}$	$\frac{\text{Input high}}{\text{Outcome low}}$	under	under
8	$\frac{\text{Input low}}{\text{Outcome high}}$	$\frac{\text{Input low}}{\text{Outcome low}}$	under	equitable

Table 2. Sources of variance, degrees of freedom, and expected mean squares

Source	df	EMS
Other's ratio (A)	$i-1$	$jk\sigma_{ad}^2 + jkm\theta_a^2$
Input Person (B)	$j-1$	$ik\sigma_{bd}^2 + ikm\theta_b^2$
Outcome Person (C)	$k-1$	$ij\sigma_{cd}^2 + ijm\theta_c^2$
A X B	$(i-1)(j-1)$	$k\sigma_{abd}^2 + km\theta_{ab}^2$
A X C	$(i-1)(k-1)$	$j\sigma_{acd}^2 + jm\theta_{ac}^2$
B X C	$(j-1)(k-1)$	$i\sigma_{bcd}^2 + im\theta_{bc}^2$
A X B X C	$(i-1)(j-1)(k-1)$	$\sigma_{d/abc}^2 + m\theta_{abc}^2$
Error (Total)	$(m-1)ijk$	$\sigma_{d/abc}^2$
D	$m-1$	$ijk\sigma_d^2$
A X D	$(i-1)(m-1)$	$jk\sigma_{ad}^2$
B X D	$(j-1)(m-1)$	$ik\sigma_{bd}^2$
C X D	$(k-1)(m-1)$	$ij\sigma_{cd}^2$
A X B X D	$(i-1)(j-1)(m-1)$	$k\sigma_{abd}^2$
A X C X D	$(i-1)(k-1)(m-1)$	$j\sigma_{acd}^2$
B X C X D	$(j-1)(k-1)(m-1)$	$i\sigma_{bcd}^2$

be seen that the appropriate error term for a test of a given effect is the mean square whose expectation contains all of the components that are in the EMS for the given effect except the component directly attributable to the given effect.

### Tasks

In order to estimate task variance, it was necessary to devise two tasks which were distinct from each other yet not so unrelated that they would appear contrived. In addition, it was essential that quantity in performance be separated from quality of performance, and that the intrinsic requirements of the tasks be relatively simple so that performance might vary only as a function of the effort of the subject. For these reasons two new tasks were developed for this study.

A series of standard data cards was generated with entries punched and printed in columns 1-21. The first column contained the number 1, 2, or 3 in random order throughout the deck of 9999 cards. The cards were numbered consecutively (0001-9999) in columns 17-20 for purposes of identification, but such identification was presumed masked by the random entries in columns 2-16 and column 21. The origin of the cards was apparent, for the words "Iowa State University Computation Center" and the University seal were printed on each. The deck of data cards was re-used several times, after being re-ordered to the original sequence.

#### Task #1: sorting

The first task required the subject to sort these data cards into three groups, according to the number (1, 2, or 3) in the first column. Cards were sorted onto the work table which had been partitioned by masking tape



into three sections. A number of previously sorted cards were left stacked in each of the partitions, so as to simulate the "project's" on-going nature. In a qualitative sense, there were few opportunities for variance. The subject was simply required to sort the card onto its respective section of the table (1, 2, or 3 from left to right). While there was no restriction on the precision or lack thereof of card placement, most subjects were relatively neat in their work, and created their own separate piles of cards.

Several factors dictated the selection of a rather short (five minute) work period. The attention span of most subjects was considered unreliable. In addition, the simplicity of the task did allow for a fairly high number of units to be produced per minute. Thus it was felt that a relatively short work period could be tolerated both by the subjects and by the psychometric considerations. The dependent variable for the first task, then, was the number of data cards correctly sorted during a five minute period.

Task #2: assembling

The second task required the subject to assemble the data cards into groups of three. Taking one card from each of the sorted categories, the resultant packets were to consist of a "one", a "two", and a "three", in that order, and were to be fastened together with a paper clip at the bottom edge of the cards. The packet was then placed in a data card box which was inclined forward to allow the packets to easily stand on edge. A number of completed packets had been arranged in the box, but were separated from those produced by the subject by fastening the former with an elastic band. The dependent variable for this second task was the number of packets assembled during a five minute period.

### Independent Variables

An attempt was made to mirror several select elements of the input and outcome factors in the ratios of Other and Person which have been especially emphasized in the theoretical statements of Adams. Though these elements have been used in some previous research, they typically have been presented by implication or have been manipulated in isolation from the others.

#### Input

The presentation of input in a quantitative fashion, i.e., by providing known production rates, has been shown to result in a lowering of experimental effect when such quantitative presentation is confined to Other's input (Goodman & Friedman, 1968). However, it would appear plausible that such a presentation, when also provided for Person, would result in a clear, concise expectation of performance and would provide an unambiguous basis for Other-Person comparisons.

Under this rationale, a pilot study ( $n=11$ ) was conducted for the purpose of determining "norm" performance on each of the two tasks, so as to establish the levels of a quantitative statement of input. The instructions which were given to this group followed exactly those which were later used during the experimental sessions (and which are presented in the Procedure section), but with the experimental manipulations omitted. Mean performance on Task #1 was 101.73,  $\sigma=33.55$ . Therefore, plus and minus two standard deviations were identified as convenient high and low levels of the quantified element of input, with high=170 and low=35 cards sorted in five minutes. Mean performance on Task #2 was 16.82,  $\sigma=4.02$ . The high and low levels of the second task, therefore, were respectively identified as 25 and 9 packets

assembled in five minutes.

Input was not only specified by this dimension of difficulty (number of pieces to be completed), but also by the dimensions of ability and experience. The levels of the input factor (Task #1) for Other were the following:

- High - "I understand that the members of the Brooklyn and St. Paul Day Centers usually are able to sort 170 of these in five minutes. They seem to have more than enough ability and experience, even though one has to have a real talent for paper work to do it that well."
- Low - "I understand that the members of the Brooklyn and St. Paul Day Centers usually are able to sort 35 of these in five minutes. They don't seem to have enough ability and experience, but they say that one doesn't have to be good with paper work to do it that well."

The levels of the input factor (Task #1) for Person were the following:

- High - "Now in your case, you could be able to sort 170 of these in five minutes. You seem to have more than enough ability and experience, even though you have to have a real talent for paper work to do it that well."
- Low - "Now in your case, you could be able to sort 35 of these in five minutes. You don't seem to have enough ability and experience, but you don't have to be good with paper work to do it that well."

The levels of the input factor (Task #2) for Other were the following:

- High - "I understand that the members of the Brooklyn and St. Paul Day Centers usually are able to assemble 25 packets in five minutes. They seem to have more than enough ability and experience, even though one has to have a real talent for paper work to do it that well."
- Low - "I understand that the members of the Brooklyn and St. Paul Day Centers usually are able to assemble 9 packets in five minutes. They don't seem to have enough

ability and experience, but they say that one doesn't have to be good with paper work to do it that well."

The levels of the input factor (Task #2) for Person were the following:

High - "Now in your case, you could be able to assemble 25 packets in five minutes. You seem to have more than enough ability and experience, even though you have to have a real talent for paper work to do it that well."

Low - "Now in your case, you could be able to assemble 9 packets in five minutes. You don't seem to have enough ability and experience, but one doesn't have to be good with paper work to do it that well."

#### Outcome

The manipulation of outcomes in this study was not typical of the previous research, for outcomes were not specified as wages. Rather, outcomes in the present study attempted to reflect what Adams has implied as two important general dimensions, i.e., immediate rewards intrinsic to the task (specified as interest), and the value associated with more long-term benefits (experience leading to future gainful employment).

The levels of the outcome factor were identical for each of the two tasks. The levels for Other were the following:

High - "The members of those Day Centers found work like this extremely valuable to them. In addition to finding it to be a clean and interesting kind of job, the experience they got with this job helped some of those men in getting some very high paying office jobs in the Brooklyn and St. Paul areas."

Low - "The members of those Day Centers did not find work like this valuable to them. They just couldn't get interested in this kind of job, and there didn't seem to be much of a salary in this kind of work in the Brooklyn and St. Paul areas."

The levels of the outcome factor (Task #1 and Task #2) for Person were the following:

High - "You probably will find work like this extremely valuable to you. It's a clean and interesting kind of job, and the experience you'll get with this job should certainly help you in getting a very high paying office job in the Des Moines area."

Low - "You probably won't find work like this valuable to you. It's not a very interesting kind of job, and there just isn't much of a salary in this kind of work in the Des Moines area."

### Other

The study attempted to make the social basis of Adams' model more explicit by identifying Other as a group of comparable patients in different geographic locations, i.e., "members of the Brooklyn and St. Paul Day Centers". All possible ( $2^2$ ) input/outcome combinations for the ratio of Other were not utilized in this study. Instead, the high input/low outcome and low input/high outcome ratios comprised the two levels of the A factor, i.e., ratio of Other. These specific ratios were selected so as to create conditions of maximum inequity between the ratios of Other and Person. This was done following Adams' assumption that the greater the inequity of the input/outcome balance, the greater will be the resulting dissonance and the greater will be the motivation for corrective acts.

### Procedure

Seven subjects were randomly assigned to each of the eight treatment groups shown in Table 1. These 56 subjects were distinct from those used in the pilot study. Individual subjects were approached in the Day Room of

the DTC and advised that their help in a project was needed. The experimental sessions were introduced by the following narrative:

"The VA and Iowa State University are involved in a project to study hospital planning and administration. Part of the VA's responsibility is to sort and assemble the data so that it can be analyzed by computer. The data have been punched and printed on these IBM cards."

The nature of the first of the two tasks was then described:

"In order for this project to be possible here at the Des Moines Day Center, we first have to see how many of these cards can be sorted into three different piles, according to the number in the left-hand corner, like this..."

The experimenter then demonstrated the task by sorting at least six of the cards which had been positioned immediately in front of the worker. He then observed the subject sort a minimum of six cards. As soon as the subject was performing the task to criterion, the experimenter directed him to:

"Continue to sort these for five minutes. I have to check on something outside, but I'll be back in a short time."

The experimenter then noted the serial number of the top card of the subject's work pile, started his concealed stop watch, and left the subject alone in the work area. When he returned in five minutes, he took the unsorted cards from the subject and recorded the serial number of the last card which had been sorted. This ended the practice session for Task #1.

The experimenter then began the induction for the first task with:

"Since we started this project I've found out some more information about this job."

The appropriate levels of the variables were then given by the experimenter in the following order: (1) input and outcome of Other, (2) input of Person, and (3) outcome of Person. The specific inductions for the eight conditions are given verbatim in Appendix A. The subject was then told:

"Now sort these for five minutes. I'll be back then."

The experimenter started his stop watch and left the subject alone in the work room. He returned in five minutes, took the remaining unsorted cards from the subject, and recorded the serial number of the last card which had been sorted. This ended the experimental session for Task #1.

Task #2 was then introduced:

"Fine. Now the last step is to assemble these cards that have already been sorted into groups of three, so that each packet has a "one", a "two", and a "three" in it, in order, with each packet fastened by a paper clip at the bottom, and then put into this box, like this..."

The experimenter then demonstrated the task by assembling one packet. He observed the subject assemble at least two packets. The experimenter then directed the subject to:

"Continue to assemble them for five minutes. I have to check on something outside, but I'll be back in a short time."

The experimenter once again started his concealed stop watch, left the subject alone in the work room, and returned in five minutes. He marked the assembled packets (minus the practice packets) with a rubber band, ending the practice session for Task #2.

The experimenter then began the induction for the second task with:

"Let me tell you something about this part of the job."

The manipulations were then given for Task #2, after which the subject was told:

"Now assemble these for five minutes. I'll be back then."

Leaving the subject alone for five minutes, the experimenter returned, ending the experimental session for Task #2.

Before releasing the subject, a post-work questionnaire was administered to each subject, following this introduction:

"Since this project is being done at the Day Center, I want to find out what the members think about this kind of work. These questions will help me find that out. I would like to read them to you, and then you answer them the best you can."

This questionnaire (a copy of which is included in Appendix B) was intended as a crude estimate of the resolution of inequity by cognitive means after having allowed for behavioral resolutions. The subjects were asked to judge each of the major elements of the inputs and outcomes for Other and Person on a scale from one to five (high to low). These judgements were of: (1) Other's input when specified as difficulty, (2) Person's input when specified as difficulty, (3) Other's input when specified as ability, (4) Person's input when specified as ability, (5) Other's outcome when specified as value, (6) Person's outcome when specified as value, (7) Other's outcome when specified as interest, (8) Person's outcome when specified as



interest, (9) how much they liked the job, and (10) their estimate of a fair hourly salary for this kind of work.

The subjects were thanked for their assistance and released with no mention of their maintaining confidentiality. The possible effects of such an admonition were considered detrimental to the goals of the simulation as an "on-going project". It was the later consensus of the DTC staff that there were few if any identifiable consequences resulting from participation in the study.

### Statistical Analysis

The main effects and interactions of the input and outcome variables of Other and Person were examined by analysis of variance. In this analysis, the idiographic model was represented by the interaction of Person's input with Person's outcome (B X C), whereas the social model was represented by the interaction of Other's ratio with Person's input and outcome (A X B X C).

Differential effects of under- and overcompensation were evaluated through t tests in which treatments were grouped by level of compensation according to each of the two models. Both the behavioral and the rating data were so analyzed. Task variance was estimated through separate analyses for each of the two tasks, and various regression analyses were conducted in order to estimate the effects of practice.

## RESULTS

Summary tables for the analyses of variance for the treatment groups are presented in Tables 3 and 4, showing the main effects, interactions, and error terms for the experimental data for Task #1 and Task #2. As indicated in the summary tables, the treatment effects were not statistically significant ( $df = 1/6$ ,  $F = 5.05$ ,  $p < .05$ ;  $df = 1/48$ ,  $F = 4.04$ ,  $p < .05$ ).

Table 3. Summary table for analysis of variance for treatment groups on experimental data for Task #1

Source	SS	df	MS	F
Other's ratio (A)	1650.29	1	1650.29	0.90
Input Person (B)	714.29	1	714.29	0.23
Outcome Person (C)	1360.29	1	1360.29	0.77
A X B	171.49	1	171.49	0.06
A X C	1805.78	1	1805.78	0.85
B X C	37.78	1	37.78	0.01
A X B X C	3648.29	1	3648.29	1.76
A X D	11009.71	6	1834.95	
B X D	18290.21	6	3048.37	
C X D	10625.71	6	1770.95	
A X B X D	16113.01	6	2685.50	
A X C X D	12679.22	6	2113.20	
B X C X D	20288.22	6	3381.37	
Total Error	99704.29	48	2077.17	

Table 4. Summary table for analysis of variance for treatment groups on experimental data for Task #2

Source	SS	df	MS	F
Other's ratio (A)	103.14	1	103.14	1.41
Input Person (B)	4.57	1	4.57	0.12
Outcome Person (C)	92.57	1	92.57	1.67
A X B	138.72	1	138.72	2.21
A X C	4.57	1	4.57	0.14
B X C	14.00	1	14.00	0.20
A X B X C	151.14	1	151.14	3.13
A X D	438.11	6	73.02	
B X D	236.18	6	39.36	
C X D	331.68	6	55.28	
A X B X D	376.46	6	62.74	
A X C X D	196.68	6	32.78	
B X C X D	429.75	6	71.62	
Total Error	2315.48	48	48.23	

Comparisons of the differences between the mean productivity of those treatment groups which classified (cf., Table 1) as overcompensated, equitably compensated, or undercompensated by a social definition of inequity are presented as t tests in Tables 5, 7, and 9. Since the general principle of equity theory predicts that when overcompensated, Person will increase his input, whereas when undercompensated he will decrease his input, the t tests of these data are one-tailed (where negative values indicate

differences in the unpredicted direction). While such repeated t tests lack the power of an analysis of variance procedure, they were performed in order to provide an analysis common to much of the previous research literature.

These same comparisons of mean productivity are given in Tables 6, 8, and 10 when the grouping of conditions followed an idiographic definition of inequity. These various comparisons indicated that there were no significant differences between the productivity scores of the overcompensated and the equitably compensated groups under both the social and the idiographic models of inequity (Tables 5 and 6). Likewise, there were no significant differences between the mean productivity scores of the undercompensated and the equitably compensated groups under each of the models (Tables 7 and 8). Nor were there significant differences between the productivity scores of the overcompensated group when compared with the undercompensated group (Tables 9 and 10). Overall, neither the social nor the idiographic model of inequity allowed comparisons which demonstrated significant differences between treatments on the behavioral data. There was no variance across tasks.

Table 5. Treatment differences (means) in productivity under a social model of over- and equitable compensation

Task	Overcompensation (n=21)	social	Equitable (n=14)	social	t
Sorting	129.00		109.00		1.40
Assembling	23.24		19.71		1.46

Table 6. Treatment differences (means) in productivity under an idiographic model of over- and equitable compensation

Task	Overcompensation (n=14)	idio.	Equitable (n=28)	idio.	t
Sorting	119.71		125.18		-0.38
Assembling	20.57		22.36		-0.74

Table 7. Treatment differences (means) in productivity under a social model of under- and equitable compensation

Task	Undercompensation (n=21)	social	Equitable (n=14)	social	t
Sorting	119.00		109.00		0.54
Assembling	19.81		19.71		0.07

Table 8. Treatment differences (means) in productivity under an idiographic model of under- and equitable compensation

Task	Undercompensation (n=14)	idio.	Equitable (n=28)	idio.	t
Sorting	110.93		125.18		-0.94
Assembling	19.00		22.36		-1.30

Table 9. Treatment differences (means) in productivity under a social model of over- and undercompensation

Task	Overcompensation <sub>social</sub> (n=21)	Undercompensation <sub>social</sub> (n=21)	t
Sorting	129.00	119.00	0.59
Assembling	23.24	19.81	1.50

Table 10. Treatment differences (means) in productivity under an idiographic model of over- and undercompensation

Task	Overcompensation <sub>idio.</sub> (n=14)	Undercompensation <sub>idio.</sub> (n=14)	t
Sorting	119.71	110.93	0.52
Assembling	20.57	19.00	0.80

Comparisons of the differences between the judgements of the various input and outcome elements by the overcompensated, equitably compensated, or undercompensated groups under the social model of inequity are contained in Tables 11, 13, and 15. These same comparisons of mean ratings, made with treatment groups arranged according to the idiographic model, are presented in Tables 12, 14, and 16. While statistical significance was achieved in several of these numerous comparisons, most were in the unpredicted direction, and therefore were uninterpretable by either definition of inequity.

Table 11. Treatment differences (means) in ratings of components of input and outcome variables for Other and Person under a social model of over- and equitable compensation

Attitude Scale (high-low, 1-5)	Overcompensation (n=21)	social	Equitable (n=14)	social	t
Input Other - difficulty	3.09		2.71		0.95
Input Person - difficulty	3.33		3.43		0.27
Input Other - ability	2.33		2.07		0.75
Input Person - ability	3.28		3.50		0.76
Outcome Other - value	3.14		2.00		-3.14**
Outcome Person - value	3.86		2.86		2.04
Outcome Other - interest	3.33		3.00		-0.74
Outcome Person - interest	3.48		3.21		0.54

\*\*p<.01

Table 12. Treatment differences (means) in ratings of components of input and outcome variables for Other and Person under an idiographic model of over- and equitable compensation

Attitude Scale (high-low, 1-5)	Overcompensation (n=14)	idio.	Equitable (n=28)	idio.	t
Input Other - difficulty	3.07		3.50		-1.10
Input Person - difficulty	3.50		3.64		0.42
Input Other - ability	2.14		2.75		-1.69*
Input Person - ability	3.50		3.00		-1.48
Outcome Other - value	2.43		2.71		0.66

Table 12 (Continued)

Attitude Scale (high-low, 1-5)	Overcompensation (n=14)	idio.	Equitable (n=28)	idio.	t
Outcome Person - value	3.07		3.61		-1.10
Outcome Other - interest	2.93		3.43		1.22
Outcome Person - interest	2.92		3.46		-1.24

\*p&lt;.05

Table 13. Treatment differences (means) in ratings of components of input and outcome variables for Other and Person under a social model of under- and equitable compensation

Attitude Scale (high-low, 1-5)	Undercompensation (n=21)	social	Equitable (n=14)	social	t
Input Other - difficulty	3.67		2.71		-2.77**
Input Person - difficulty	3.81		3.43		0.46
Input Other - ability	2.95		2.07		-2.56**
Input Person - ability	2.81		3.50		-0.70
Outcome Other - value	2.52		2.00		1.38
Outcome Person - value	3.28		2.86		-0.84
Outcome Other - interest	3.52		3.00		1.46
Outcome Person - interest	3.33		3.21		-0.31

\*\*p&lt;.01



Table 14. Treatment differences (means) in ratings of components of input and outcome variables for Other and Person under an idiographic model of under- and equitable compensation

Attitude Scale (high-low, 1-5)	Undercompensation <sub>idio.</sub> (n=14)	Equitable <sub>idio.</sub> (n=28)	t
Input Other - difficulty	2.78	3.50	1.92*
Input Person - difficulty	3.43	3.64	-0.22
Input Other - ability	2.36	2.75	1.16
Input Person - ability	3.21	3.00	0.66
Outcome Other - value	2.64	2.71	-0.02
Outcome Person - value	3.28	3.61	0.86
Outcome Other - interest	3.50	3.43	0.02
Outcome Person - interest	3.57	3.46	-0.03

\*p<.05

Table 15. Treatment differences (means) in ratings of components of input and outcome variables for Other and Person under a social model of over- and undercompensation

Attitude Scale (high-low, 1-5)	Overcompensation <sub>soc.</sub> (n=21)	Undercompensation <sub>soc.</sub> (n=21)	t
Input Other - difficulty	3.09	3.67	-1.66
Input Person - difficulty	3.33	3.81	0.51
Input Other - ability	2.33	2.95	-1.94*
Input Person - ability	3.28	2.81	-1.57
Outcome Other - value	3.14	2.52	-1.68*

Table 15 (Continued)

Attitude Scale (high-low, 1-5)	Overcompensation <sub>soc.</sub> (n=21)	Undercompensation <sub>soc.</sub> (n=21)	t
Outcome Person - value	3.86	3.28	1.32
Outcome Other - interest	3.33	3.52	0.50
Outcome Person - interest	3.48	3.33	0.38

\*p&lt;.05

Table 16. Treatment differences (means) in ratings of components of input and outcome variables for Other and Person under an idiographic model of over- and undercompensation

Attitude Scale (high-low, 1-5)	Overcompensation <sub>idio.</sub> (n=14)	Undercompensation <sub>idio.</sub> (n=14)	t
Input Other - difficulty	3.07	2.78	0.78
Input Person - difficulty	3.50	3.43	-0.17
Input Other - ability	2.14	2.36	-0.59
Input Person - ability	3.50	3.21	-1.04
Outcome Other - value	2.43	2.64	0.54
Outcome Person - value	3.07	3.28	-0.39
Outcome Other - interest	2.93	3.50	1.46
Outcome Person - interest	2.92	3.57	-1.48

However, Table 14 did contain one theoretically describable "significant" difference. Those subjects classified as undercompensated by an idiographic definition rated the input of Other, when input was specified as degree of difficulty, as significantly higher (mean = 2.78) than did those subjects which were idiographically defined as equitably compensated (mean = 3.50). Yet the idiographic model, by definition, precludes Person's consideration of the ratio of Other in establishing his own personal level of equity. Thus this difference too must be described as without meaning, and presumably is a statistical artifact.

The data obtained for the practice session of Task #2 were examined in an analysis of variance for treatment effects. The rationale for this analysis was the conjecture that with the sequential ordering of experimental and practice sessions, the experimental effects for Task #1 might not appear until the practice session for Task #2. The results of this analysis are presented in Table 17.

As seen in Table 17, a statistically significant A X B X C interaction was obtained, as predicted by the social model of inequity, but during a session which contained no manipulations. Such an effect might be interpreted as a carry over from Task #1 treatment effects, but it was demonstrated in Table 3 that there were no treatment effects in the experimental session for Task #1. Though an interpretation based on a delay in effects was tenable, the role of practice invited further evaluation through regression analysis procedures.

The variables for regression were the following:

- 1: practice session, Task #1
- 2: experimental session, Task #1

Table 17. Summary table for analysis of variance for treatment groups on practice data for Task #2

Source	SS	df	MS	F
Other's ratio (A)	1.79	1	1.79	0.04
Input Person (B)	0.64	1	0.64	0.02
Outcome Person (C)	185.79	1	185.79	4.89
A X B	108.64	1	108.64	2.54
A X C	0.06	1	0.06	0.00
B X C	20.64	1	20.64	0.65
A X B X C	144.66	1	144.66	4.28*
A X D	286.46	6	47.74	
B X D	223.11	6	37.18	
C X D	227.96	6	37.99	
A X B X D	256.11	6	42.68	
A X C X D	256.69	6	42.78	
B X C X D	190.61	6	31.77	
Total Error	1623.71	48	33.83	

\*p&lt;.05

3: practice session, Task #2  
 4: experimental session, Task #2  
 5-11: treatment groups  
 12: "percentage hospitalization".

The regressions which were performed, their multiple R-square values, and the associated F-ratios are presented in Table 18. Due to the high inter-correlation of performance scores in each of the practice and experimental

sessions, only the immediately preceding practice session was examined as a covariate of the experimental sessions. A matrix of these intercorrelations is presented in Table 19.

Table 18. Regressions of experimental data on treatment groups and the covariates of practice and hospitalization

Regression Instruction	Multiple R-square	F
2 on 5-11	0.086	0.64
4 on 5-11	0.180	1.50
2 on 1	0.562	69.29**
4 on 3	0.686	118.25**
2 on 1, 5-11	0.660	11.43**
4 on 3, 5-11	0.723	15.32**
2 on 12	0.022	1.19
4 on 12	0.126	7.76**

\*\*p<.01

Table 19. Intercorrelation of performance scores in practice and experimental sessions

Performance Session	A	B	C	D
Practice, Task #1 (A)	( )	.749	.677	.664
Experimental, Task #1 (B)		( )	.594	.689
Practice, Task #2 (C)			( )	.829
Experimental, Task #2 (D)				( )

The regression of the experimental data for Task #1 on the treatment groups presented findings analogous to those which were indicated in Table 3. The multiple R-square value for this regression showed that only 8.6% of the variance in this session was accounted for by treatments. Similarly, the multiple R-square value of 0.18 for the regression of performance in the second experimental session on the treatment groups was essentially in agreement with the data of Table 4. Both indicated that treatments had little relationship to experimental performance on the second task.

As indicated in the table of correlations, not only did practice predict the immediately following experimental performance, but practice on the first task was also a strong predictor of all later sessions. In the regression analysis, the multiple R-square indicated that practice on the first task accounted for 56.2% of the variance in experimental performance on Task #1. This amount of variance was beyond that which would be expected by chance, for the F-test gave an  $F = 69.29$  ( $p < .01$ ). Similarly, the role of practice was demonstrated in the regression of Task #2 experimental performance on practice for the second task. The multiple R-square showed that 68.6% of the variance of experimental performance on Task #2 was predicted by the practice immediately preceding this session. The  $F = 118.25$  signified that practice here too was a highly significant determinant ( $p < .01$ ) of experimental performance. If the practice covariate had been defined as all preceding performance sessions, in contrast to just the preceding practice session, even more experimental variance would have been accounted for by covariance. In view of the high performance intercorrelations, however, such regressions were not performed.

In the regression "2 on 1, 5-11", it was found that 66% of the variance

for the experimental session on Task #1 may be accounted for by a combination of treatments and the covariate of practice on Task #1. For the second task, the regression "4 on 3, 5-11" resulted in a multiple R-square value which indicated that 72% of the variance in experimental performance on Task #2 may be accounted for by the combination of treatments and the covariate of practice on Task #2. When the effect of the practice covariate was removed, by subtraction, from the combination of treatments and practice, to allow for a more precise evaluation of treatment differences, the treatment mean square for the first task yielded an  $F = 0.20$ . When the practice effect was removed from the second task, the resulting treatment effect showed  $F = 0.87$ , which also was not significant.

Thus, this study found the effects of the treatment variables to be virtually non-existent. No experimental effects were obtained after removing the effects of immediately preceding practice. No evidence was obtained of the utilization of either the social model or the hypothesized idiographic model of equity by this population. Rather, practice was found to have been highly significant in its effects on experimental behavior.

## DISCUSSION AND CONCLUSIONS

It was interesting to note that the role of hospitalization, when seen as the covariate "percentage of the subject's life spent in a psychiatric hospital", was not nearly so potent as practice in its influence on experimental performance. The last two regressions in Table 18 indicated that the percentage-hospitalization covariate predicted only 2.2% of the variance which this population showed during the experimental session for Task #1, and 12.6% of the variance of the second experimental session. Though the latter multiple R-square was significant ( $p < .01$ ), it should be recalled that the respective values for the practice effects were 56.2% and 68.6%. As it was associated with performance, then, practice was more influential than pathology.

In view of the major finding of this study, i.e., the effects of practice upon the two later experimental sessions, the absence of treatment effects in the second and third of Lawler et al.'s (1968) three successive experimental sessions is not surprising. It may be presumed that their first experimental session functioned as practice for the following sessions. The effects of such practice might easily have been sufficient to diminish the effects of treatment. In the present study, practice was both made explicit and arranged so as to precede the manipulation of the variables. With these modifications, experimental treatment effects were never observed.

The procedure of the Lawler et al. (1968) study is replete with suggestions that their subjects found little opportunity to define appropriate task behavior for themselves, apart from the definition generated by the inequity manipulation. For example, Lawler et al. (1968) reported:



"Despite the fact that many subjects asked how many interviews they could do or how much money they could make, the experimenter carefully avoided answering such questions" (p. 257), and "At no time did the experimenter comment on the quality of the subject's work or indicate his approval or disapproval with the subject's productivity" (p. 259). Instead, it appears that ambiguity in initial task performance was essential to the obtaining of treatment effects.

Lawler et al. (1968) have reported that their instructions were confined to the following:

"Following the induction, each subject was given an interviewer guide and a supply of interviewing sheets. The interviewer's guide gave several general suggestions for effective interviewing (e.g., ask questions in order shown on form and interview only people over 18). The instructions also told the subjects to "record each interviewee's comments in sufficient detail to enable someone else to interpret correctly what was said... After the subject had a chance to read the interviewer guide and the interview form itself, they were again told to follow the instructions carefully and to return in two hours"(pp. 258-259).

It was within such a setting that Lawler et al. obtained their equity treatment effects ( $F = 17.38$ ;  $p < .01$ ) in the first session. However, when no induction was repeated for the second and third sessions; yet when all subjects had had the benefit of the first "practice" session, treatment effects were no longer significant. For these later sessions, the subjects' need for money was found to be a more efficient predictor of behavior, accounting for 49% of the variance in productivity in the second and third sessions, while for only 26% in the first session. Thus when the basic design is expanded, to provide for more than a single observation, alternatives to the equity explanation appear, and are found to be quite predictive of behavior.

The specific task instructions given in other studies also seem insufficient, particularly when they are contrasted with the typically lavish manipulations. For example, the original study by Adams and Rosenbaum (1962) reported the following as the extent to which the task (interviewing) was structured for the subject:

"S was to interview adult members of the general public for approximately 2.5 hours and was to obtain approximately equal numbers of interviews with male and female respondents. No restrictions were placed on where S was to obtain interviews" (p. 162).

However, the emphasis they gave to the manipulation must not have been as modest, for they add:

"As S departed to begin work he was briefly reminded of the relation of his qualifications to his pay of \$3.50 per hour" (p. 162).

Thus the manipulation may merely have provided the subject with short-term normative expectations of appropriate task performance. These expectations may be replaced by others which are formed during a period of experience with the task. However, the latter may be estimated only when the experimental design makes allowances for repeated observations of task performance.

There were several methodological points of novelty in the present study, beyond the estimate which was made of practice effect and the use of an atypical sample of subjects. These may be listed as follows: (1) both input and outcome were fully varied for Person; (2) unbalanced ratios were used for Other; (3) Other was explicitly identified as a peer group; (4) outcomes were not specified as wages; (5) conditions of both over-

and undercompensation were established; (6) two new tasks were developed. Any one of these variations should be considered significant from the point of view of design, and all should be further evaluated in each of their respective effects by future investigations. However, this study obtained such commanding effects due to practice that the relative effects of these other variations could not be estimated. Practice left little to discuss beyond the purely speculative.

For instance, although it had been intended to evaluate the differential strength in the effects of the input and outcome variables of Other and Person, the practice covariate subsumed any such differential treatment effects. Likewise, conditions of under- and overcompensation were found to be no different in their effects than the equitable control condition, under each of the two models of equity and across each of the two tasks. The experimental behavior of the sample did not indicate that either Other (social) or historical Person (idiographic) was chosen as a model for experimental behavior. Rather, the data indicated that the sample maintained the performance rates which had been established in practice.

The effects of practice on this population deserve further elaboration. If expectations of appropriate performance are, indeed, generated during a practice period, how might these be described for this population? Having collected, as a group, 415.75 years of inpatient hospitalization, and averaging 7.42 years, this sample might easily be defined as "chronic". Did practice, then, offer this group of chronic schizophrenics anything beyond that which it would offer a normal population?

A functional and dynamic view of the schizophrenic reaction is strongly suggestive of this possibility. Defining the schizophrenic as one who

has discarded "common sense" and consensuality, Shulman (1968) considers the schizophrenic as one who must take steps to protect his private world: "He makes himself immune to logic and sentiment, two consensual ways of communicating by which it is possible for one person to influence another" (p. 11). In so doing, he is no longer answerable to anyone, for he is independent of the rules which others feel obliged to obey. When he has finally reached the level of chronicity, he "has a considerable investment in maintaining it against the pressures of his environment" (Shulman, 1968, p. 42). Therefore, in the face of impending "treatment", what better opportunity to generate and solidify rigid levels of performance than in a practice session?

In addition, it is plausible to assume that the identification of the experimenter as a member of the DTC therapeutic staff was not without its influence. (For example, one might have anticipated a low rate of performance by the subjects so as to insure against the possibility of their later being given a similar job as a permanent work assignment. However, the wide range in the experimental performance scores, i.e., 2 to 217 on Task #1, and 1 to 45 on Task #2, did not suggest this strategy.) If by their chronicity the patients/subjects had already demonstrated their resistance to therapeutically-posed variables, one should not have expected them to be affected by experimental variables, for both were emanating from the same psychologist/experimenter, and both could have been seen as having the same (aversive) therapeutic purpose.

If the questionnaire had been administered just prior to experimental performance, i.e., immediately following the manipulation, it could have been used as a measure of the strength of the manipulation. (The variables

may have been strong, but perhaps too strong, to the point of their posing a threat, for example, to the subjects' sense of competency.) But since the questionnaire was administered after the last session, its use was restricted to an estimate of the cognitive resolution of inequity. Future investigations should consider a check on the strength of the manipulation. Though such a check might tend to emphasize and thus reinforce the manipulation, resulting, in effect, in a double induction, such an assessment is necessary as long as Adams maintains that inputs and outcomes are "as perceived by" the person.

The aura which might also have emanated from the experimenters and the situations of the previous research provides a logical point of similarity between the biases of this and the previous studies, with the exception of Lawler et al. (1968). Just as the practice session and the experimenter of this study might have had an idiosyncratic effect on this chronic schizophrenic group, so too might college students as a group have been singularly affected by previous inductions and experimenters. With no provisions for practice, and with little description of appropriate task performance, those college samples may be assumed to have been confronted with an employer/experimenter who implicitly yet very strongly suggested that it would be socially desirable if they would conform to the expectations of equity theory. Lawler and O'Gara (1967) have reported correlations of  $-0.36$  ( $p < .05$ ) and  $-0.49$  ( $p < .01$ ) between productivity and, respectively, "sociability" and "social presence" on the CPI. Thus, when underpaid on a piece rate schedule, those students who by self-report were not confident of their social skills were those who were most likely to follow the demands of the induction in the single experimental session. Indeed, Lawler and O'Gara

(1967) themselves have commented: "For these Ss it may be that raising productivity presents the only concrete way of reducing these feelings of guilt and self-doubt, and showing the E and themselves that they are really worthwhile" (p. 409).

It is suggested, therefore, that whereas the schizophrenic subjects of this study found the practice sessions to be particularly conducive to their later avoidance of treatments, samples of typical college sophomores seized upon the induction as an ideal occasion to actively exhibit their social abilities. Thus, practice, for the schizophrenics, precluded their later having to engage in consensual behavior. For the college students, however, the challenge of the induction demanded that they engage in consensual behavior. This study has apparently biased its lack of results by providing a practice session which may have catered to the needs of its sample. Previous studies, on the other hand, have apparently biased their positive results by not providing a practice session which would offer an alternative, personally-generated norm for behavior. While this explanation should be recognized as speculative, the suspected bias of each approach may readily be corrected through appropriate designs.

It would appear essential that the validity of equity theory first be established in a normal population. Such a validation must account for the effects of practice. Specifically, practice sessions should be incorporated into the design of future studies which utilize college populations. If in so doing, the effects of practice are found to be negligible, and there continue to be equity effects, one may assume that the practice effect is specific to the population of this study. Secondly, future research with schizophrenic populations should assure against secondary gains which may

be provided by a practice session, perhaps through the insertion of a substantial time interval between sessions of practice and experimental performance.

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## APPENDIX A: TREATMENT INDUCTIONS

Condition 1:

(Task #1)

"I understand that the members of the Brooklyn and St. Paul Day Centers usually are able to sort 170 of these in five minutes. They seem to have more than enough ability and experience, even though one has to have a real talent for paper work to do it that well. The members of those Day Centers did not find work like this valuable to them. They just couldn't get interested in this kind of job, and there didn't seem to be much of a salary in this kind of work in the Brooklyn and St. Paul areas.

"Now in your case, you could be able to sort 35 of these in five minutes. You don't seem to have enough ability and experience, but you don't have to be good with paper work to do it that well. You probably will find work like this extremely valuable to you. It's a clean and interesting kind of job, and the experience you'll get with this job should certainly help you in getting a very high paying office job in the Des Moines area."

(Task #2)

"I understand that the members of the Brooklyn and St. Paul Day Centers usually are able to assemble 25 packets in five minutes. They seem to have more than enough ability and experience, even though one has to have a real talent for paper work to do it that well. The members of those Day Centers did not find work like this valuable to them. They just couldn't get interested in this kind of job, and there didn't seem to be much of a salary in this kind of work in the Brooklyn and St. Paul areas.

"Now in your case, you could be able to assemble nine packets in five minutes. You don't seem to have enough ability and experience, but you don't have to be good with paper work to do it that well. You probably will find work like this extremely valuable to you. It's a clean and interesting kind of job, and the experience you'll get with this job should certainly help you in getting a very high paying office job in the Des Moines area."

## Condition 2:

## (Task #1)

"I understand that the members of the Brooklyn and St. Paul Day Centers usually are able to sort 170 of these in five minutes. They seem to have more than enough ability and experience, even though one has to have a real talent for paper work to do it that well. The members of those Day Centers did not find work like this valuable to them. They just couldn't get interested in this kind of job, and there didn't seem to be much of a salary in this kind of work in the Brooklyn and St. Paul areas.

"Now in your case, you could be able to sort 170 of these in five minutes. You seem to have more than enough ability and experience, even though you have to have a real talent for paper work to do it that well. You probably will find work like this extremely valuable to you. It's a clean and interesting kind of job, and the experience you'll get with this job should certainly help you in getting a very high paying office job in the Des Moines area."

## (Task #2)

"I understand that the members of the Brooklyn and St. Paul Day Centers usually are able to assemble 25 packets in five minutes. They seem to have more than enough ability and experience, even though one has to have a real talent for paper work to do it that well. The members of those Day Centers did not find work like this valuable to them. They just couldn't get interested in this kind of job, and there didn't seem to be much of a salary in this kind of work in the Brooklyn and St. Paul areas.

"Now in your case, you could be able to assemble 25 packets in five minutes. You seem to have more than enough ability and experience, even though you have to have a real talent for paper work to do it that well. You probably will find work like this extremely valuable to you. It's a clean and interesting kind of job, and the experience you'll get with this job should certainly help you in getting a very high paying office job in the Des Moines area."

## Condition 3:

## (Task #1)

"I understand that the members of the Brooklyn and St. Paul Day Centers usually are able to sort 170 of these in five minutes. They seem to have more than enough ability and experience, even though one has to have a real talent for paper work to do it that well. The members of those Day Centers did not find work like this valuable to them. They just couldn't get interested in this kind of job, and there didn't seem to be much of a salary in this kind of work in the Brooklyn and St. Paul areas.

"Now in your case, you could be able to sort 170 of these in five minutes. You seem to have more than enough ability and experience, even though you have to have a real talent for paper work to do it that well. You probably won't find work like this valuable to you. It's not a very interesting kind of job, and there just isn't much of a salary in this kind of work in the Des Moines area."

## (Task #2)

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## Condition 4:

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"Now in your case, you could be able to sort 35 of these in five minutes. You don't seem to have enough ability and experience, but you don't have to be good with paper work to do it that well. You probably won't find work like this valuable to you. It's not a very interesting job, and there just isn't much of a salary in this kind of work in the Des Moines area."

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## Condition 5:

## (Task #1)

"I understand that the members of the Brooklyn and St. Paul Day Centers usually are able to sort 35 of these in five minutes. They don't seem to have enough ability and experience, but they say that one doesn't have to be good with paper work to do it that well. The members of those Day Centers found work like this extremely valuable to them. In addition to finding it to be a clean and interesting kind of job, the experience they got with this job helped some of those men in getting some very high paying office jobs in the Brooklyn and St. Paul areas.

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APPENDIX B: QUESTIONNAIRE

1. How difficult would it be to work as fast as the men in Brooklyn and St. Paul? Would it be:

very difficult (1)  
pretty difficult (2)  
not too bad (3)  
pretty easy (4)  
very easy (5)

2. How difficult was it for you to work as fast as you were told you could?

Was it:

very easy (5)  
pretty easy (4)  
not too bad (3)  
pretty difficult (2)  
very difficult (1)

3. How qualified do you think the men in Brooklyn and St. Paul are?

Are they:

highly qualified (1)  
above average (2)  
average (3)  
below average (4)  
very little (5)

4. How much ability do you think you have for this kind of work?

very little (5)  
below average (4)  
average (3)  
above average (2)  
a great deal (1)

5. How valuable do you think the members of other Day Centers would find work like this? Would they find it:

very valuable (1)  
pretty valuable (2)  
just average (3)  
a little (4)  
very little (5)

6. How valuable do you think experience with this job might be to you?

Will it be:

very little (5)  
a little (4)  
just average (3)  
pretty much (2)  
very much (1)

7. How interesting might others find this job? Would they find it:

extremely interesting (1)  
very interesting (2)  
OK (3)  
a little (4)  
not interesting (5)

8. How interesting did you find this job? Was it:

not at all interesting (5)  
a little (4)  
OK (3)  
very interesting (2)  
extremely interesting (1)

9. How much did you like this job?

very much (1)  
pretty much (2)  
in between (3)  
not much (4)  
not at all (5)

10. What do you think would be a fair hourly salary for this kind of work?